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Health

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EDITORIAL

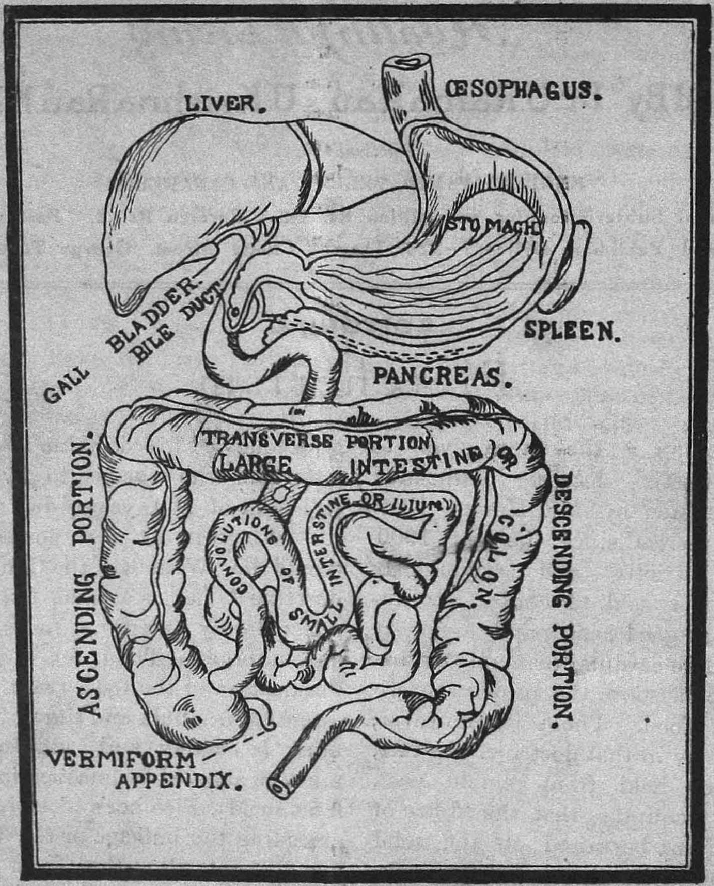
Fletcherism

Fletcherism is the name given to a new dietetic doctrine enunciated and propagated by Mr. Horace Fletcher of America since the year 1900, which, if strictly and scrupulously observed, is said to confer on human beings good health and longevity of life. The cardinal principle of that doctrine consists in the proper mastication of food. There is, however, nothing new in that doctrine. In fact, it had been held from remote past, in our own country, that the edifice of long life must be raised on the solid foundation of food and the superstructure must be supported by four strong pillars, *viz.*, (1) Nutrition, (2) Mastication, (3) Digestion and (4) Assimilation. "Faulty food" said Brigu, the son of Manu, "is responsible for the premature death of man" and faulty food includes not only the quality and quantity of food taken, but also the manner of its taking. Mr Fletcher who followed his doctrine to the very letter and who expected to live to the full term of 100 years, died alas! in his 70th year, as any normal being would die. What was the fault in his doctrine? Let us assume that he had selected only nutritious foods for his consumption. Then, for a thorough mastication of the food, two things are essential, *i.e.*, bulk and time. The food must be bulky and sufficient time must be allowed for mastication. The fault in Mr. Fletcher's doctrine lay in excluding the bulkage or the indigestible elements altogether from the diet. This is what 'Good Health' (U.S.A.) observes on the failure of 'Fletcherism':—

"Unfortunately, however, for Mr. Fletcher's campaign, he conceived the idea not only that the food should be kept in the mouth until reduced to a semi-liquid condition, but that everything that could not be so reduced

must be discarded ; that is, that bulkage or indigestible elements of all sorts should be carefully excluded from the diet. The natural result of this practice was, of course, very greatly lessened activity of the intestine, obstinate constipation in fact, in the majority of persons who followed it. Mr. Fletcher overlooked the fact that bowel movements have for their purpose not only the removal of food residues but the elimination of bile, one of the most noxious of all the excretions of the body and one demanding as prompt elimination as does the urine or any other excretory product.

The result in Mr. Fletcher's case, as well as in the cases of many of his disciples, was an intense auto-intoxication, the consequences of which were most lamentable. Professor William James said, " I tried Fletcherism for three months. I had to give it up. It nearly killed me ". This unfortunate mistake wrecked Fletcher's campaign and, in the writer's opinion, led to his premature death from chronic bronchitis."



The Organs of Digestion. 'Impaired digestion means premature death'.

Though 'Fletcherism' as such has

not found its way into India, we are constrained to remark that the people here follow a form of '*ism*'—just the opposite of Fletcherism—call it '*Gulp-ism*' if you like—which is equally detrimental to their health and longevity of life. In the first place, their foods are not nutritious, they are lacking in essential vitamins and minerals. Secondly, they have neither the time nor the inclination to masticate the food taken. The foods themselves are overcooked and made extremely soft. They are gulped and are not allowed to be mixed sufficiently with the saliva, the secretion of the salivary glands, which is the first and most important step in the process of digestion. There is no work for the grinding mill—the jaws and the teeth. The latter in consequence become decayed and worn out. As a result of imperfect mastication, imperfect digestion and imperfect assimilation, putrefaction sets in and poisons are produced. How these poisons act in the system is thus graphically described by Sir Arbuthnot Lane.—

"We eat frequently, expel infrequently, and poisons are produced by putrefaction. These poisons enter the blood stream. Every part of the body is reached. Every part of the body suffers. The body resists. It tries to create antidotes to the poisons. The body fights back and tries hard but it dies. It does not die the day the poison is introduced. It makes a losing fight for years. But eventually the break comes......"

It is imperative, therefore, that you must take nutritious food, masticate it thoroughly, digest it, assimilate it and see that the waste products are expelled then and there. Then and only then you can be sure of being listed among the centenarians.

The Wound Healers

By

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The treatment of wounds has been a mighty problem for many hundreds of years. The care of wounds received in battle with animals and human enemies was the most pressing consideration of early man. It is still the most important consideration of surgeons to-day. The first important advance in the treatment of wounds came about in a curious manner. Ambroise Pare, the Father of Surgery, and the greatest surgeon during the Renaissance, was at Turin in his first campaign as a military surgeon. He had many cases of wounds to take care, and up till now he treated once the way every other surgeon treated them—by pouring boiling oil into them. This was not only agony to the patient, but it actually delayed the healing of the wound.

It was after a rather severe

engagement when Pare found himself out of oil for his wound cases, and instead he had to use an extemporized simple ointment. To his surprise and delight he found the next day that the patients he had treated with the simple ointment fared better than those he had been treating with boiling oil.

The next great contribution to the care of wounds was made by Lord Lister when he introduced the carbolic acid spray. Lister preached a new gospel which affected the entire surgical art profoundly, but it was many years before he received the attention he deserved. The years went on, and the Lister treatment of wounds was the accepted mode throughout the world. It was the best method available, but surgeons were not satisfied; they were continuously seeking other and better methods.

Bleaching Powder becomes an antiseptic.—It required the World War to give a powerful impetus to the study of wounds. The greatest minds of the medical profession were concentrated on this problem. Among these were Carrel, a physician and Dakin, a chemist. Carrel had attained some prominence on making a piece of chicken tissue live for many years in a jar of salt water. Dakin was a chemist of the highest order. Together these two set about developing an antiseptic which would kill the germ life within the wound without devitalizing the cells. At first they began to use solutions made with ordinary bleaching powder because it contained chlorine in easily available form. The chlorine acted upon the myriads of germs, killing them, and left the tissues in practically healthy state.

However, as time went on it was found that bleaching powder was proving too irritating, and the chemical mind of Dakin began to devise compounds which would still contain chlorine but would be free from irritation. Chloramine-T was finally evolved, and this chemical became the basis of the famous Carrel-Dakin wound treatment.

The Carrel-Dakin treatment soon took its place as one of the most effective means of treating wounds. It was one of the greatest contributions of modern surgery to this vexing problem, and it accomplished wonders. The most striking effect visible to the eye in a wound treated by the Carrel-Dakin method is that the surfaces are cleaned very rapidly. Dead tissues, even large sloughs, are quickly digested away, and the surface becomes smooth, clean and bright red in colour.

The Carrel-Dakin method of wound treatment makes use not only of an antiseptic of proven power, but also as an agent destroying those parts of the wound on which alone, or chiefly, germs can find a place to grow and reproduce. Dakin's fluid is very much the same as the surgeon's knife in cases in which the wound must be excised.

The Carrel-Dakin method of wound healing consisted in its original form of a continuous circulation of Chloramine-T fluid through the wound. As time went on it was found that while this method accomplished what was intended it proved rather irksome to the patient. In France Dr. Daufrense and in this country Drs. Carrel and Hartmann found that Chloramine-T could be used in ointment form with just as good results, but with greater convenience to the patient. Both the

liquid and paste form of the chlorine chemical are in use today, and both are proving an untold value in wound healing.

For a great many years surgeons noted that wounds at times yielded flies. This does not mean that the flies had their origin in wounds. The great Italian scientist, Spanazelli had long ago upset the theory of spontaneous generation. It meant that for some strange reason certain flies were attracted to wounds. The great Ambroise Pare found that much to his surprise, the patients whose wounds were infested with those flies, or "worms" as he called them, made a good recovery, in spite of their presence. He saw many such cases after the battle of St. Quentin in 1557.

The next surgeon to be impressed by wound flies was Dr. Zachmann, who in 1704 wrote an account of this unusual phenomenon, stating that when flies were found in the wounds they invariably helped the wounds to heal rather than hindered this process. Not long afterwards, Baron D. J. Larrey, Napoleon's military surgeon saw many cases of wounds infested with maggots in Syria during the Egyptian Expedition. The soldiers were frightened almost to death by these minute, unwelcome visitors, but the observant Baron Larrey hastened to assure his soldiers that they were fortunate in having their wounds as hosts to these little blue flies. Their presence, rather than being harmful, seemed to hasten healing.

During the Civil War Dr. W. W. Keen, the Father of American Surgery, found the maggots were commonly found in the wounds, particularly in the summer time. Although their presence did not add to the appearance of the wound, and the soldiers were frightened nearly to death on account of them, their presence was of distinct benefit.

In 1917, during the world War, Dr. William S. Baer, served as surgeon with the American Army in France. He noted that some of the soldiers brought to his hospital from the battlefields with compound fractures of the thigh, had wounds heavily infested with fly maggots. He was an observant surgeon and he compared these cases with those of soldiers whose wounds were not infested with maggots. He found that the soldiers whose wounds harboured fly larvae seemed to make a better recovery and in a shorter interval of time.

Dr. Baer was very much impressed with this finding, and when he returned to America he determined to learn something more about these wound flies and the part they played in wound healing. Why leave to chance the infestation of wounds? Why not artificially implant these flies in infected wounds and see what happened?

Dr. Baer had many cases of osteomyelitis (infection of the bone marrow) at the Children's Hospital School in Baltimore. These seemed appropriate cases in which to see what the wound flies would do. He secured the cooperation of the Department of Zoology and Entomology at the Ohio State University who undertook to rear these flies for him. The fly experts selected two species of blowflies; Lucilia seracta and Phormia regina, because these were the most easily obtained and the easiest to raise in captivity.

During the summer of 1930 David

F. Miller worked with the United States Bureau of Entomology at Washington, D. C. upon the problem of raising flies for use in wound healing. This was the first time that an insect expert had been called upon to tackle a problem in which insects were to be enrolled in the rank of disease fighters. There were many problems to consider: cages in which to raise the flies, cabinets to control breeding, pupation jars, and suitable foods for the future wound healers.

With a source of clean, readily available carefully raised blowflies Dr. Baer undertook his great work in wound healing. At first he implanted the flies into the wound with a sterilized wooden tongue blade. Later more elaborate means were devised. Cages were invented to confine the maggots to the wounds. Provisions had to be made for the drainage of infected material. The healthy skin edges had to be protected with adhesive.

When the maggots were introduced for the first time into the wound the patient felt a slight biting sensation. This was the result of the attack on the dead, unhealthy tissue by the maggots. During the first four or five applications, the maggots were actually found to grow and thrive on the putrid food which they obtained in the wound. After about five days they seemed to lose their efficiency or appetite and new maggots had to be introduced.

Dr. Baer was fascinated by the results he was obtaining. The discharge of pus from the wound was gradually lessening. The odour was also slowly disappearing. Perhaps even more important, was that there was a distinct decrease in the number of bacteria found within the wound. The reaction was also turning from acid to alkaline. In other words, the wound was definitely on the mend.

How do these wound flies aid in healing? This naturally was the question which occupied the attention of the surgeons and other scientists who aided in the experiments. Did the maggots secrete a bacteriophage or bacteria-eater, which Dr. D'Herelle had discovered several years previously? This phase of the problem proved of particular interest to Dr. William Starin, who after a great deal of research arrived at the conclusion that no bacteriophage was secreted. The tendency now is to believe that the wound flies secrete something in the nature of an enzyme which acts to digest away the putrid wound flesh.

Dr. Baer who did so much to popularize wound flies as healing agents called them living antiseptics. It was the first time that wound scavengers in the form of specially reared flies were implanted into wounds for the purpose of keeping them free from deleterious germ life as well as of keeping them clear of dead, hindering wound tissues. The wound flies were not only living antiseptics, they were something more, living scalpels. They accomplished what the surgeon sets out to do by excising useless wound flesh.

Chronic wounds and Rubber sponges.— Every doctor knows that there is no wound so chronic as an ulcer wound of the leg. Such a wound may last for years without improving in the least; healing seems to crawl along at a very slow rate. Ointments do not seem to help much.

Chronic ulcer wounds was a problem

which particularly interested Dr. Lester Luxenberg. He knew that several years previously Dr. McPheeters, whose name is now associated with the problem of chronic ulcer wounds in the minds of most doctors, invented a special kind of rubber sponge or wound heart for the treatment of ulcer wounds, and this was used with great success by many physicians, particularly by Dr. Luxenberg. He, in time, modified this method to such an extent that he obtained a wound heart of remarkable effectiveness.

Dr. Luxenberg's method was not only very effective but very simple and logical. Over the wound that would not heal he plastered a vaseline gauze. Layers of sheet wadding came next to protect the skin from irritation. Then came the all-powerful rubber sponge which completely covered the ulcer wound. The rubber sponge was held in place by a gauze bandage. Finally the entire leg was wrapped in an elastic bandage, spiraling from the knee to include the foot. Once this wound had been wrapped around the affected leg the patient was told to take walk, in fact to do as much walking as possible.

Within a week wonders began to happen to the old apparently unhealing and unhealable ulcer wound. It became covered with a clean, healthy, living surface, and the cells from the edges around the wound began to grow rapidly and close in.

Why was this happening? Why did the rubber sponge finally prove to be the conquerer of a wound that would not heal? The answer is simple. The rubber sponge and elastic bandage created a constant pressure over the ulcer. When the patient walked he automatically provided himself with a massaging movement of the sponge over the wound. Lymph, serum and stagnant blood were by this means forced out of the wound area and a fresh, healing supply of blood was allowed to enter. This constantly kept up by the rubber sponge which became a sort of wound heart furnished a steady supply of fresh blood to the wound and promoted its healing.

In this type of wound no amount or kind of antiseptic was of any value. A mechanical devise was the logical way of tackling the problem. Many lives are now being made happier by the rubber sponge which in this capacity has found its greatest use in medicine.

Bathing for burns.—Wounds caused by burns are among the most serious. Since the time of the great Hippocrates physicians have been studying the problem, because burn wounds have a tendency to occupy wide areas and also tend to prove fatal if not treated in time and properly.

For hundreds of years there was really no effective way of treating burns. All sorts of medicines were suggested to be applied to the burn wound, but the majority of them proved unsatisfactory; others proved even more mischievous than the original wound itself. In 1925 a great advance in the treatment of burns was made when Dr. Davidson introduced tannic acid. He evolved a very complex but nevertheless very effective method.

Dr. Davidson put the patient into a tent heated by dozens of electric lights, this furnished a constant,

healing stream of heat. In addition tannic acid was sprayed or painted on to the burn wounds. Healing proceeded and many of the patients who would have hithertofore died recovered when the Davidson method was popularized.

The Davidson method although it aided the burn to heal was somewhat a clumsy way of doing it. In 1932 Dr. Wells made a great advance in the treatment of wounds caused by fire by placirg the patient into a bath filled with tannic acid solution. Enough tannic acid was used to impait a good muddy colour to the skin. The water was just hot enough for the patient to bare with comfort.

As soon as the badly burned patient was put into the tannic acid bath the soothing of the wounds occurred almost at once The patient became comfortable and at ease. The tannic acid solution of the bath penetiated into the wound, softened the charred tissues, loosened the burnt flesh. Clothing adhering to the wounds were then removed with ease and without causing pain. The water and tannic acid were changed frequently, allowing new and fresh medicine to act on the body. All dead skin and bacteria were effectively washed away by the continuous bath.

By the time the patient was clean and ready to leave the tub, the tan was already on his skin. The patient was then transferred from the bath to a warm room, placed on a dry bed and from this time on, was kept absolutely dry with a continuous draft of warm air from a frier. The burn wounds were then sprayed with more tannic acid.

The Wells Method is at present the best that modern science has of treating wounds caused by fire. Bathing in a healing solution is necessary because large areas of the skin surface are involved. Tannic acid is still the best way of treating burn wounds. It has proved the means of saving many a life which otherwise would have been lost.

Skin grafting.—In wounds covering wide areas, particularly in burn wounds, a livid, unpleasant surface remains. Surgery has contributed to this problem by evolving methods of covering these unsightly residue by grafting healthy, living skin over them.

Many years ago Dr. Reverdin advocated the use of small pinches of skin which he placed at various intervals on the wound surface. These small islands of skin cells would in a short time become part of the wound and from the edges of these minute living islands cells would grow out and cover the livid, unsightly surface. As time went on more and more cells would grow out and in the course of several weeks or months, depending upon the size of the wound, the surface would be completely covered with a healthy, good-looking skin.

As the years rolled by ideas began to occur to surgeons that soon saw practical application. The implantation of many, minute pinches of skin on a wound surface proved too tedious a process, and it took too long a time to heal over. Dr. Thiersch advocated the grafting of whole layers of skin to cover the wound surface at one application. This did not require many long months for new skin cells to grow. All the skin cells necessary to cover the surface were transplanted at one time. The one great disadvantage

of this method was that very often the skin graft would not take. It would slough off, and leave an angry looking surface before the graft was applied.

Under such circumstances a new skin graft had to be made. Under proper conditions of asepsis the chances for the new skin layer to take are very good. The chances of the skin graft taking were also further increased if skin from the patient's own body was used. It was found that skin taking from some one else's body would take, but in two weeks had a tendency to disappear. Grafting from skin outside the patient's own body is now seldom used except in cases of emergency when it becomes necessary to carry the victim over a crisis.

Wounds are still a problem, and a very important problem in surgery. Although a great deal of progress has been made since the days of Pare there is still much that remains to be done. New antiseptics are constantly being developed, but the search is still going on for that ideal antiseptic which will kill only the germs in the wound without killing the living cells of the wound itself. Lately vegetable and animal ferments have been advocated to digest away dead flesh; dyes of various sorts have come into fashion: new methods of skin grafting have been advocated; the electric tension of wounds by complicated machines have been studied. Wound healing is still an important problem, and there is still much to be learned.

Some Practical Methods of Exterminating Mosquitoes

By.

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It is well known to the public that malaria is caused by the bite of the mosquitoes. The infected anopheles, a variety of the mosquito, introduces the malarial parasite into the human blood. Even the harmless mosquitoes are a nuisance. In this article I shall not deal with the methods adopted on a larger scale by the Municipal bodies or the sanitary authorities, for the destruction of the mosquitoes, such as the filling up of shallow ponds and puddles, introduction of underground drainage, the destruction of the eggs and the larvæ by chemical or biological methods. The methods described will only be such as can be used by any householder to make his home comparatively free from mosquitoes.

The mosquitoes prefer dark and damp places in the house where they seek shelter during the day. They hide in large numbers in water pots, bathrooms, behind hats and clothes hanging from the pegs, in any rubbish thrown and neglected, and even in furniture, under chairs, behind and within wardrobes etc. They prefer dark colours. White furniture, and clothes attract less mosquitœs than those of darker shades. It is a matter

of every day experience that people wearing dark stockings get more bites than those using lighter shades. A well ventilated house with plenty of light and white furniture will attract less mosquitoes, clothing should not be kept hanging about, but should be closed in wardrobes.

Flit and Katol coils are largely used to kill mosquitoes. But both are costly and often they make the mosquitoes temporarily unconscious, and fail to kill them. They generally escape through open windows only to come in when the fumes have abated. A simpler method is the use of a common black clay chatty or earthen-pot as a trap. The outside of the pots should he coloured white by lime, and they should be kept in likely places where the mosquitoes aggregate. Of course it is necessary to remove all other means of shelter, such as boxes, hanging clothes etc. The water pots should be covered. In the morning the majority of mosquitoes will be found collected in these chatties, as they find the chatties as the most convenient shelters in the absence of others. Place the lid on the chatty and either put it in the hot sun, or pour a few drops of petrol in it, to kill the mosquitoes.

Another method which I have found handy and more satisfactory is the use of a large plate, of the kind used on pots or " Bhagonas " for cooking rice, or a frying pan fitted with a handle. This plate should be smeared with castor oil. The articles or corners sheltering mosquitoes should be shaken to disturb the mosquitoes. When they take to wings and fly, strike them with the oil-smeared plate. The mosquitoes will stick to the greasy surface, as the flies do to the fly paper. Such a process repeated daily will to a very great extent minimise the number of mosquitoes in a house.

Nerves

By

R. RAJAGOPALAN B.A.,

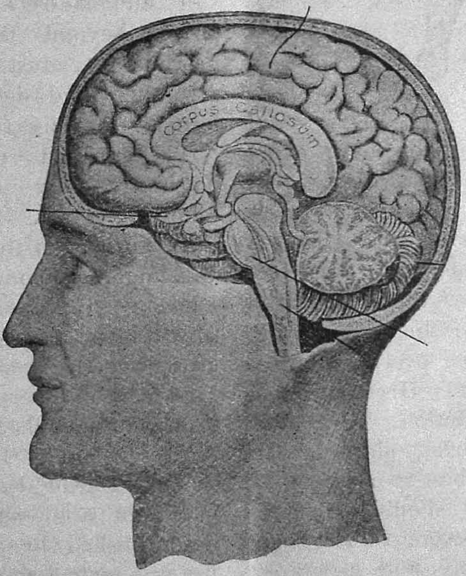
Ootacamund.

WHAT a great part they play in a human system ! We say " Look at his nerve" meaning the audacity of the man and we use 'nerves' to mean steadiness and strength of will. Yet there is another usage for the same word. " It is nerves I am suffering from " many wail. Our modern civilization and habits have created this dread disease.

Shattered nerves make a man imbecile. Life to a nervy man is not worth living. From a shaky hand to a horrible night-mare is caused by weak nerves. More susceptible to this are the women. Especially those who are mothers to a number of children fall a victim to this malady, which proves incurable sometimes. Hysteria is the name of this affliction and it is a state of mental inequilibrium. In men the most common form is the " shocks". The bark of a street dog, the noise of the car-hooters, the snap of a window-pane or a flutter of the cock outside produce shocks in a nervy man, which irritate him. Irritability is sometimes traced to an inactive liver. A sluggish liver is the cause of indigestion. Weak nerves

are caused by mal-assimilation and the converse is also true. In this connection let me observe that even a lay man knows that good digestion means a plentiful supply of rich blood. Good circulation of blood creates nerve strength. We have seen doctors prescribing tonics which contain iron and phosphorus for bad nerves. Blood supply is increased by the iron constituents and consequently the nerves are strengthened.

Nerves in a human system may be well compared to a telegraphic arrangement. The brain is the central station from which the trunk line called " spine " starts. There are a number of branch lines communicating with all the parts of the body. Hence a pin prick on the foot is instantaneously communicated to the brain, which immediately transforms it into a feeling of pain. In the same way an image produced on the retina of a scene of murder is interpreted into a feeling of horror which produces a quick succession of muscle movements which are called "shudders." A man whose nervous system does not carry out this work is called an imbecile and he is immune to all sensations. The nerves which miscarry these ideas cause mental disorder also. To a maniac the insignificant ant appears as a mammoth and hence his terror. His own fingers seem to him like the clawy fingers of a monster and the consequent thought is of strangling which moves him to clench them of their own accord. A passing man appears to chase him and he flies at his sight or throws a stone at the inoffensive man. A man who overcomes such mad feelings at the onset is really a strong-willed person. Macfadden's magazine published the story of a man, who though healthy in all respects—a heavy-weight in fact-by constant fear that he is going mad felt all the horrors of a maniac. Though his muscles were strong his nerves were weak and played tricks on his brain. By a wonderful control and practice of his will he overcame his malady.



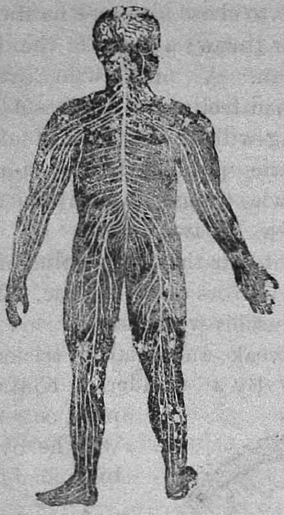
THE BRAIN.

***Corpus Callosum** is a band of white substance composed of nerve fibres, which connects the two hemispheres of the cerebrum (the largest and uppermost part of the brain).*

Thus we pass on to the will power. Will power and nerves are allied to each other. Weak nerves produce weak will, and strong will produces stronger nerves. This suggests a cure for nervous weakness by will power.

Generally strong men have strong nerves. Yet we see many men who are thin and lean exercising great will power. There are also strong

men with muscles rippling all over the body, who are subject to debilitated nerves. I have seen muscular men suffering from dizzy heads and even wet dreams and involuntary emissions. It is due to the fact that they have not attended to the nerve side of their



The Nervous System.

physique. They might have over-exerted or consumed a diet which could not be well assimilated. Rest they might have overlooked. All these cause weakness in nerves.

In an office worker the cause of the nervousness may be due to overwork. He might have toiled overtime and it is rest that he wants. His mind must have complete relaxation. A holiday trip to some watering place or the country side is the best remedy.

A young student should utilise his vacation in good exercises and light reading. His algebra and geography are too serious a study for his mind. Mental fatigue may make an idiot of an extraordinarily brilliant student. A student who sits up late at night and burns his midnight candle may remember nothing in the morrow. Brain-fever, insomnia, dizziness in the head-all are caused by a overworked brain. Rest, moderate diet and exercises are the best remedy.

There are also effective exercises for creating nerve strength. The most popular one is to hold a tumbler brimful of water at an arm's length without spilling a drop for minutes together. This requires concentration of will power. At the beginning this may prove difficult but constant practice will improve steadiness which is a sign of improving nerves.

Some fear to walk over high bridges without side railings. They are not confident of their steadiness. Determination is wanting. If they only overcome their fear and walk over it they will find it easy. Anything which proves beyond the capacity of a nervous man must be tried with perseverance and determination That forms an exercise for his weak nerves.

The third is to improve will power. There are many methods of which the following is one. Undermining one's own capacity is the weakness of nervous men. Selfconfidence is esssential. I have good nerves. I have the power to withstand any hardship. I can face anything and I am not afraid'—such kind of self-determination is said to improve the will.

Presence of mind is a sign of good nerves. Daring deeds done by hunters explorers and warriors have been accomplished by this gift. When in the presence of a tiger about to pounce upon you, if your arms shiver and your gun shakes, how can you bag the beast? Pluck and courage are the effects of good nerves.

Natural methods are the best for building up good nerves. Baths are the best cure for debilitated nerves. Cold water has the power of invigorating the nerves. Early morning baths in a stream or pond taken regularly are the best. A little before the dawn is said to be the appropriate time, as it is said that ozone carrying gases are believed to evolve out of water during night and settle on the surface of pond or river and that they evaporate when the sun shines. Baths in waterfalls have the glorious effect of toning up the nerves. The Hindu custom of going on pilgrimage to watering places is based on this though cloaked in religious scruples.

Next to bath comes the complete evacuation of the bowels and simple but nourishing diet. If these are supplemented by brisk walks in the open in the case of older men and vigorous exercises in the case of the young, the nerves will be toned up and steady.

Body is the temple in which the soul presides. Soul is said to be the emblem of the Universe and God. Body-building is a noble form of God-worship. In this science muscle culture is not sufficient. Nerves also must bear the same attention to keep the mind clear and pure for meditation. It is true that while the body undergoes an exercise for the muscles, the nerves also automatically get exertion Still those who doubt their nerve strength must attend to them promptly. Tonics are good but nature should strengthen the nerves and mineral food must only supplement. Nature cure is permanent. Good exercises in the open, moderate diet and plenty of rest will atleast prevent a man from falling a prey to nervous disorders.

Recovery without Drugs

WHAT CHRISTIAN SCIENCE HAS DONE

By

H. C. MENKEL, M.D.,

We are not attempting to discuss Christian Science as a religion, in this article, nor as a system of therapeutic psychology ; but, to call attention to one interesting observation in connection with this quite modern movement. Christian Science represents one form of reaction against the multitudinous drugs, and drug systems as applied to our human problems of increasing disease and ill-health.

As a system Christian Science decries recourse to all manner of treatments, and urges a negative mental attitude toward disease, pain and unhappiness; together with a positive assertion toward health, ease and happiness. Naturally then, the followers of this system will have nothing to do with the more than five thousand drugs and remedies which are urged as necessary to recovery from disease. Nevertheless it is observed that among the adherents of this non-drug cult there are many recoveries from various diseases and forms of ill-health. Just what

is the significance of these observations ?

One conclusion is obvious, and attracts our attention so far as the present article is concerned. It is certain that thousands have recovered, and other thousands are recovering from disease and various ailments without the use of drugs. Whatever may be the faults of Christian Science it has served to demonstrate that recovery is possible from quite a number of ailments *without drugs*.

If people can recover without drugs, what is it that really heals, and what is necessary for recovery from disease ?

In the first place we need to recognise that disease is not something which comes upon us, or which we "catch," but represents a disturbance in body function and its balance. To just the degree that harmony of function is disordered to that degree are we diseased. It may be said with confidence that barring unusual accidents or strong hereditary transmissions, the major cause for ill-health is violation of nature's laws.

Whenever violation produces serious disturbance of function and lowering of the body defences, the immediate effect is a series of corrective efforts to overcome the threatened disaster. This may take the form of fever to burn up accumulated poisons and overcome infection: or it may result in vomiting and diarrhœa, or still other efforts to eliminate irritants introduced by food, drink, or smoke. The corrective effort may produce pain, and thus compel rest of some abused overtaxed organ or structure. Therefore what we call disease, is usually one, or a series of attempts to signal a warning, calling for help, by way of ceasing to do the evil things, and co-operating by adopting more natural practices.

Whenever any part of the body sustains injury, as in a broken bone, lacerated skin, bruised or torn muscle, nature's forces and resources are at once set in operation to rebuild the tissue, restore and repair the damage. If the damage is done within the body such as overworking and producing irritation in an organ like the liver, stomach, kidneys, pancreas, thyroid and adrenal glands, or damaging toxins are introduced by insect bite, the same repair forces are set in operation to meet the particular need.

This intelligent, constructive, restoring force must in some way be akin to the larger operations we observe in nature and through the universe. All life-giving power comes from God. When one recovers from disease it is the power from God working according to established laws of cause and effect. Healing, like creating, is the work of God through nature's agencies.

Drugs or medicines never cure. The best that any such so-called remedy can do is to contribute some mineral element, vitamin, enzime, hormone, chalon, or some other factor which nature can utilize for the emergency. All of what we may call essential medicines are contained in our natural foods.

The day is approaching when our best remedial aids will be drawn from sun, air, water, and factors formed in our normal natural foods.

Col. Robert McCarrison, I.M.S., in a paper read before the Far Eastern Association of Tropical Medicine concisely stated his conclusions regarding the major cause of disease in India, also called attention to the prime

essential for recovery. It is of more than passing interest to note how in the experience of this trained observer both cause and remedy are associated with food.

Col. McCarrison states, "Obsessed by the idea of the microbe, the protozoa, or the invisible virus as all important excitants of disease, subservient to laboratory methods of diagnosis, and hide bound by our system of nomenclature, we often forget *the most fundamental of all rules for the physician, that the right kind of food is the most important single factor in the promotion of health, and the wrong kind of food the most important single factor in the promotion of disease*".

Before the same gathering Col. McCarrison enumerated a considerable list of diseases prevailing in India, which have been demonstrated to rest upon a malnutritional basis. He says: "This list of infectious diseases, to which animals and man are rendered highly susceptible by faulty food, is comprehensive enough including, as it does, respiratory disease, gastrointestinal disease, heart disease, throat disease, kidney disease, skin disease, and infections by such diverse organisms as protozoa, bacilli and invisible viruses. There is good reason, therefore, for the assumption that such death-dealing diseases as tuberculosis, leprosy, cholera, dysentery, plague and malaria have often in this country a malnutritional element in their genesis and course. Yet in attempting to combat them, or to ascertain the conditions favourable to their spread how often do we remember *the prime rule of medicine that the wrong kind of food is the most important single factor in the promotion of disease*?".

The statement as quoted from this trained observer before so scientific a gathering, adds emphasis to one of the most vital facts concerning public as well as personal health. "The prime rule of medicine and the most fundamental of all rules for the physician" is not drugs but "the correct kind of food". This may surprise many a lay reader who has been led to believe that his life practically depended upon spending a certain per cent of his income on drugs.

Before the India Medical Association at its recent meeting in Delhi, Dr. B. C. Guha of Calcutta, related observations from the study of certain Bengali diets. Food procured from kitchens in Calcutta where it is regularly prepared for Bengali college students, was fed to groups of young rats under control observation. The rats failed to develop, became ill and died. On such a diet, beri-beri-like conditions became manifest. The nervous, circulatory, digestive and respiratory systems failed to be nourished, and subsequently developed various diseases.

The fault with this food was that much of the vitamins and mineral elements originally present, had been destroyed by cooking. Other such factors were lacking because not sufficient raw uncooked and unprocessed food was provided. The diseases resulting from this food, among the Bengali population, can be prevented and cured only by the use of less cooked food and more raw fruits, green uncooked vegetables and sprouted pulses. Also by learning to use more freshly ground whole wheat flour instead of polished and stored rice. Much less use should be made of the

acid ash forming sweets so largely consumed in Bengal. The sugar and fat in these sweets result in high percentage of blood sugar, and low liver sugar—glycogen. This high blood sugar state tends to injure the pancreas and induces diabetes, it is also a condition rendering one highly susceptible to various infections. Honey and sweet fruit have an opposite effect. These should be substituted to replace the famous Bengali sweets.

In all lands, but particularly in India, multiple thousands are in the same state of malnutritional disease as Dr. Guha's rats. They need the right kind of food before they can be well and live out their normal span of life. Drugs or proprietory food preparations will never substitute for the missing food factors. What can be done for this situation?

The following table will provide a ready reference to the more important regulating food factors. When these are supplied from the sources indicated, it will be fairly certain that the other essential factors not listed are also present. Nature, from her normal sources supplies these essential items in combined organized form. However, this only holds when the "right kind of food" is selected.

FOOD ELEMENT.	DISEASE DUE TO DEFICIENCY.	FOOD SOURCE.
VITAMIN A.	Loss of appetite. Physical weakness. Tendency to disease of eyes, ears, kidneys, lungs, skin, bladder, stomach and colon, pyorrhoea, anaemia. Slow mentality.	Whole milk, butter, cheese, egg yolk, yellow bhuta, yellow sweet potatoes, carrots and other naturally yellow and green coloured foods, fish oils. Destroyed by cooking of these foods.
VITAMIN B.	Indigestion of stomach and intestine. Constipation. Loss of weight and vigour. Subnormal temperature. Paralysis of muscle groups. Neuritis, glandular and endocrine disturbance including thyroid, adrenals, liver and pancreas.	Whole grain cereals, milk, buttermilk, green peas and legumes, dahl, raw fruits, vegetables, egg yolk, honey, yeast. marmite. Part of group B is destroyed by cooking of these foods.
VITAMIN C.	Loss of weight and physical weakness. Rapid heart and shallow rapid breathing. Bleeds easily, Low red blood count. Teeth decay easily and become brittle, pyorrhoea, Heart and blood vessel disease. Scurvy.	Raw fruit, especilly oranges, lemons, tomatoes, guavas, leeches, mangoes, pineapple, chillies. Sprouted grams, green leafy raw vegetables, potatoes, cabbage, milk. This vitamin is destroyed by cooking.
VITAMIN D.	Unstable nervous system. Low resistance to tuberculosis and other infections. Deformed bones, rickets.	Egg yolk, whole milk, fish oils. Few foods contain this vitamin, but it may be secured by daily exposing some part of the skin to direct sunlight.
VITAMIN E.	Anaemia due to inability to digest the food iron. Failure of placental function thus affects child birth.	Whole grain cereals. Milk, green vegetables and raw fruits.
ORGANIC SALTS. SODIUM.	Diabetes, Disturbed bile secretion. Flatulence with indigestion, constipation. Sodium is necessary to render lime and magnesia soluble for assimilation. Elimination of carbonic acid is facilitated by sodium in the blood.	Raw fruits and vegetables.

FOOD ELEMENTS. —*Continued.*	DISEASE DUE TO DEFICIENCY —*Continued.*	FOOD SOURCE. —*Continued.*
POTASSIUM.	Defective growth with impaired glycogen function of the liver.	Vegetables and cereals. Muscle tissue.
	Low red blood cell formation. Spleen function impaired. Low nerve energy.	
CALCIUM AND MAGNESIUM. *In nature calcium is always accompanied by magnesium.*	A large number of diseases of childhood involving tissue changes and development are due to deficiency of these combined elements.	Fruit, vegetable and cereals. The green leaves contain relatively more calcium, while the seeds contain relatively more magnesium.
	Abnormal intrauterine development and difficult parturition. Softening of bones (magnesium)	Nuts, milk, yolk of eggs.
IRON.	About 75 grains of iron in the human body. It enters into the most complicated compound found in the human organism. Good blood with all its vital consequences can only be formed *with the presence of organic iron* compounds.	Green leafy vegetables, onions, radishes, carrots, strawberries, tomatoes, dates, apples, figs, Cocoanut, walnuts. Bran of rice and wheat. Pulses, Yolk of egg, milk.

Disease is the result of violated laws. Therefore nature provides no specific remedy aside from a return to the way of obedience. When there is pain, lack of energy, or organic disturbance, these are signals that something is being done as it should not. We do not require Aspirin or other drugs to quiet nature's warning voice. The remedy is in a reform of living.

During the past thirty years more than forty thousand remedies and patent medicines have been introduced and advertised, and the end is not yet. This in itself should be sufficient to convince anyone of the futility of depending upon drugs for the cure of disease.

If our regular daily diet contains all the elements required to maintain tissue structure and functional activity at their normal standards, the resultant balanced condition is expressed as health. Health is the normal objective of nature. To maintain this normal condition of tissue and function, nature has provided the necessary factors in our natural unprocessed, unaltered foods.

When illness develops it usually indicates that something has gone wrong, and has been wrong for some time, with our food supply. One or several vital food factors are not present. Also we may be combining foods wrongly at meals. Overeating by introducing food at too frequent intervals renders impossible the digestion of any meal. Therefore correct eating of the right kind of food is the prime single factor for promoting health.—*The Oriental Watchman.*

Whooping Cough

ITS CAUSES AND TREATMENT

By

J. E. Cairncross, M.D., L.R.C.P. & S.

Perhaps one of the commonest and most distressing enemies of childhood is whooping-cough. Most parents whose children are now grown up will doubtless remember quite vividly the sleepless nights caused by this annoying disease. Whooping-cough may affect even adults in certain cases, but it is more frequent in the first ten years of life and is a far more serious disease than many realize.

According to Dr. J. D. Rolleston, whooping-cough is now the most important epidemic disease in London in causing physical suffering, loss of school attendance, impairment of the physique, and mortality. The annual incidence of whooping-cough in children under ten in Battersea, from 1925 to 1929, was about sixty per thousand, the disease being most fatal in the first two years of life.

Whooping-cough very frequently follows an attack of measles, and this fact emphasizes the seriousness of measles as well. Second attacks of whooping-cough are very rare. The infection is spread usually by direct contact being conveyed by the mucous droplets in coughing or expectoration.

Causes and Complications.—The cause of whooping-cough is supposed to be a bacillus or germ called the bodet gengou bacillus. Thirteen to fifteen days may elapse from time of infection until the characteristic symptoms of catarrh, fever, and paroxysmal cough occur. Most mothers are familiar with the last mentioned, in which a deep inspiration is followed by a rapid succession of short coughs, with open mouth and protruding tongue, which are continued until the chest is almost emptied of air. The eyeballs protrude and the skin is bathed in sweat.

The complications of whooping-cough may be quite serious, the most frequent one being bronchial pneumonia, a condition in which there are small patches of the congestion scattered throughout both lungs. This is often the cause of death in whooping-cough, as well as in measles. A second rise in temperature with rapid breathing and blueness of the face may be signs of impending bronchial pneumonia. This should therefore be watched for in any case of measles or whooping-cough.

Preventive measures.—The treatment of this condition should be in the hands of a competent physician. A great many cases may be prevented by the use of a preventive vaccine, and this means should be made available in a more widespread manner than it has been in the past. Another factor in the prevention of whooping-cough, and all other coughs, is the parents' responsibility in providing their children with proper nutrition.

An ample supply of vitamins has been proved to be definitely protective against infection of the respiratory tract. Vitamin A, in particular,

should be provided during the winter months. It is not usually present in sufficient quantities in the average diet consisting mostly of cereals, bread, butter or margarine, jam, and tea. Good butter, made in countries where there is plenty of green grass for the cows to eat, however, will usually contain a supply of vitamin A. It also occurs in spinach, carrots, lettuce, and yolk of egg. If you are not sure that your child is getting enough vitamin A it would be well to give him such vitamin preparations as cod-liver oil, Haliver oil, or some of the vitamin concentrates, such as Adexalin, Essogen, etc.

As to the active treatment of whooping-cough, there are many things that can be done in the home that will prove a great relief.

Relieving the attacks.—The air of the room must be clean and free from dust and moderately warm. Far more important even than the warmth is a uniform temperature. There is nothing more detrimental to a cold or cough than changes in temperature. A moist atmosphere is better in the early stages and the temperature should lie between sixty-five and seventy degrees Fahr. An open fire is quite suitable. Plenty of watery fluids should be given, such as orangeade made with diluted orange juice and sweetened with a tablespoonful or two of glucose, lemon squash, barley water, etc. Four to six pints of drink in twenty-four hours should be given, according to the age. Hot drinks are better than cold, since they help to produce perspiration, and if the skin becomes moist, the lining of the air passages will also become moist and thereby soothed. The diet should be principally of a liquid nature, consisting of milk and soda, barley water, jelly, junket, Ovaltine, Benger's Food, Marmite broth, etc.

The family doctor may wish to order some cough mixture that will increase the secretion, or loosen it, as the case may be, thereby relieving the irritation. Inhalations of medicated steam are very useful and relieving. One teaspoonful of Friar's balsam added to a tin containing a pint of boiling water is a good measure. The steam from this tin or jug should be inhaled three or four times a day. Carefulness should, however, be exercised in administering steam of any kind to infants or young children. Very painful or even fatal burns have resulted from the steam coming in contact with the skin of a very young child. The tin of hot water may be placed in a chair near the crib and a sheet thrown over the crib and the chair, without any danger resulting, but, of course, the treatment should be watched to see that no harm comes to the child.

It will thus be seen that, provided the doctor is called in as soon as the symptoms suggest whooping-cough and early treatment is instituted along the lines indicated, no future complications need arise, the distress will be minimized, and recovery rapid.—'*Good Health*' (*London.*)

Health Tit-Bits

Chinese Law against Juvenile Smoking.—The Chinese national government has passed a law prohibiting smoking by young persons below twenty years. Juvenile offenders, if found smoking, are punished and their parents are also fined for the offence of their children. It is a pity that as yet no such law for preventing juvenile smoking has been passed in British India.—*Health and Happiness.*

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A welcome relief.—A new heat absorbing glass which removes 52 per cent of the heat from sunlight, while permitting sufficient light to pass for illumination, says the *Technology Review*, has been designed to relieve torrid conditions in buildings during hot weather. This sounds good for India as another torrid May approaches.—*The Oriental Watchman.*

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Do you know ?—Disease-bearing mosquitoes are practically unknown in the Florida Everglades.

Tests show that yellow corn contains more vitamin A than white corn.

Recent chemical discoveries may result in greater use of tobacco instead of arsenic preparations in insecticides.

The cinchona tree which yields quinine is a native of South America, but today 97 per cent of the world's supply comes from Java.—*Illinois Medical Journal.*

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Droughts.—The very direct relation of crop failure due to droughts to the public health, attaches special interest to the causes of droughts. In an interesting article in the October number of *Natural History* (1934), entitled "Drought on a Wet Planet," Charles Fitzhugh Talman gives interesting information concerning the causes of drought and the bad effects resulting therefrom. He tells us that—

"According to a recent estimate, the amount of water lying at all times on the surface of the earth exceeds 332,500,000 cubic miles in volume and weighs more than 1,500,000,000,000,000,000 tons. Every second of the day and night something like 16,000,000 tons of this vast store passes into the atmosphere by way of evaporation and is spread abroad by the winds. At the same average rate of 16,000,000 tons a second, water falls from the sky as rain and snow upon the lands and seas of the globe. We live, therefore, upon a wet planet."

The uncertainty of rain makes farming a game of chance. The farmer is really one of the most reckless of gamblers. According to the scientists, a third of the dry land suffers perpetually from drought and is not worth the tilling. Even in regions where a sufficient amount of rain falls, the supply is so irregular that except where irrigation is practiced, agriculture is nearly always a game of chance.

Dr. Talman tells us that some of the rain that falls is collected by plants, grasses, trees, etc., and that the amount utilized is really only a very small fraction of that which falls.

The term "drought" is somewhat indefinite. It is quite generally held that if not more than a quarter of an inch of water falls in any twenty-four hours during a period of thirty days, the dryness of the soil and air resulting justify the application of the term "drought"—*Good Health (U. S. A.)*